Comments on the Review of the National Innovation System (RNIS)
Responding to the RNIS report, "Venturous Australia: building strength in innovation"

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http://www.innovation.gov.au/innovationreview/Pages/home.aspx

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RESPONSE TO Venturous Australia.

This response to Venturous Australia (the report) is based on the research conducted with Prof Brad Haseman for the forth-coming occasional paper to be published by CHASS (Council for the Humanities, Arts and Social Sciences), regarding the place of the arts in Australian innovation policy, from 1994 to 2008. However, the views expressed here are my own and should not be considered in any way to represent the views of QUT and its Creative Industries Faculty where Prof Haseman and I are based.

This response holds the perspective that the creative arts and broader humanities (HASS sector) can drive, produce, apply and diffuse innovation, in different but equally useful ways compared to the STEM sector, and, consequently, that the STEM-bias in the status quo of innovation policy should be replaced with a much broader platform embracing both STEM and HASS. Whilst the report appears to share this perspective in its overall vision, it does not adequately follow this through in the substance of its discussion and recommendations. I will now explain why I have come to this view, and then end by listing what recommendations government should adopt to compliment the good work contained in the report.

PRAISE FOR THE REPORT'S BROAD VISION

It is heartening that the report states early on that "innovation policy is more than just science and technology policy" (p15). And then later on the report quotes a section of the Prime Minister's closing 2020 Summit speech in which the "false dichotomy" between arts and sciences is seen as something to "put... to bed" -- "as if creativity is somehow this thing which only applies to the arts, and innovation is this thing over here which applies uniquely to the sciences, or technology, or to design" (p47). After concurring with the prime minister's statement, the report then mentions another "great cultural divide" that needs rethinking, "between the realm of the conceptual, the intellectual [on the one hand], and the artisan and craftsman [on the other]" (p48). All in all, when it comes to innovation policy, the creative arts have traditionally been on the marginalised end of the science-arts and conceptual-artisan dichotomies. Thus, the arts sector would greatly appreciate the report's following grand statement on the matter: "Australia's innovation policy needs to acknowledge and incorporate the role of the creative and liberal arts." (p48)

Furthermore, the report's conceptual framework of innovation, summed up as "the systemic elements of the innovation process" (see Figure 10, p17), appears to be a clear workable account of innovation that opens itself up to all knowledge domains and disciplinary areas; the cycle of knowledge production, application and diffusion, and the cluster of supporting national policies, could easily be applied to both the HASS sector AND to the STEM sector, and to both private commercial innovation AND public sector social innovation. To put it rhetorically: who doesn't produce, apply and diffuse knowledge? And which knowledge domains can't achieve this in a professional, expert, internationally-competitive and nationally-relevant way?

CRITIQUE OF THE REPORT'S LIMITED SCOPE

Despite its broad embracing vision, the report does not appear to fundamentally address the 'false dichotomy' that has, over the last decade or so, becoming entrenched as the status quo of current policy formations. In other words, the report's answer to the rhetorical questions posed above are that, in fact, the STEM sector (and those businesses built around stem-based knowledge) is the best and most relevant sector when it comes to producing, applying and diffusing knowledge for national benefit.

Granted, we can't do without the STEM sector, but the NRIS and its report was an opportunity to correct the STEM-bias in our national innovation policy settings (we can't do without the HASS sector either). This STEM-bias within innovation policy can be felt in the report's background assumptions, even if the report does not make any overt claims on this matter. It is felt in four main ways: (1) the centrality of scientific forms of research, (2) the predominance of STEM-based examples of innovation, (3) the isolation of the creative arts in educating-for-innovation, and (4) the STEM-centric focus of the recommended National Innovation Priorities. It is also evident in the number of times STEM and HASS rate a mention in the report. I will now address each of these issues in turn.

(1) Firstly, the STEM-bias is present in the centrality given to scientific research as the main source of basic research (new knowledge production). In the section outlining a few of the major ways of categorising innovation, the report states that 'product innovation' can be either "science-led [or] customer-driven", such that "Science-led innovations are an outcome of scientific research both in the public and private sectors, while customer-driven innovation is built upon careful market research and user interaction." The report appears to be distinguishing between innovations that are pushed out from knowledge production (research), versus those pulled out by the needs and behaviors of users and communities -- but why not say "research-led", instead of "science-led"? This elision of science with the broader base of research is also seen in the many instances of the phrase "science and innovation" and "science and [other forms of?] research". Here, "research and innovation" would be the more general phrase. It is relevant here to reflect on the 'house of innovation' diagram presented in Terry Cutler's presentation to PMSEIC in April, in which the 'top level' of the house was not research in general, but scientific research in particular.

(2) Secondly, the STEM-bias is evident in the predominance of STEM-based examples of innovation (new knowledge applications). The report clearly privileges commercial innovation over non-commercial social innovation -- "innovation largely revolves around what happens in businesses…" (p15) –- and, although I think this assumption should be questioned, if we accept this assumption, then of course the report should be considering all the business activity based around innovations in copyrights and so called 'creative content', 'creative works' and 'design' etc (ie, the heartland of the cultural sector, including the most commercial forms, such as popular music, film and tv, fashion, visual design). But the report remains largely silent on such things, instead focusing on examples of STEM-based innovations. For instance, examples of innovation in business (Chapter 3, pp25-36) cover these areas: wind turbines; construction; management consulting; tractors and global-positioning systems (agriculture); the use of sonar, GPS and remote sensing satellites to enhance the location, harvesting and productivity of the fishing industry; water monitoring services; internet service providers; innovative uses of IT and digital imaging by hairdressing businesses; complex product systems and project-based activities like airports, stadiums and other infrastructure projects; Web 2.0 technologies increasing social networking; creative design, marketing, organisational improvement and tooling up.

(3) Thirdly, the STEM-bias is maintained in the report by isolating the creative arts within the education system that supports innovation, rather than placing the creative arts in the innovation system itself. True, the report does not make the overt claim that the creative arts belong to education rather than innovation, however, the report almost entirely limits its discussion of the creative arts to the arena of education, or what the report calls "strengthening people and skills" or "human capital" -- covered in Chapter 5 of the report (pp45-62). Here the creative and liberal arts (HASS sector) are seen as the training ground for the very skills and aptitudes needed in tomorrow's innovative workforce and society more generally -- such as "creativity", "interpretive or 'solution-seeking' processes. In short, the report states there is a "need to integrate creativity, cultural studies, the arts and design into curriculum to produce the best innovators" (p50).

(4) Fourthly, there is a STEM-bias to the recommended National Innovation Priorities which continues the STEM-bias in the current National Research Priorities. The only thing getting close to the cultural sector in the recommended National Innovation Priorities is 'broadband applications' to compliment the roll-out of super high speed broadband. All other innovation priorities relate very much to a science-tech-agriculture-finance perspective.

The four areas outlined above are certainly not contestable in themselves, but they ARE rather limiting and unadventurous (un-venturous). It is valid and appropriate to suggest that science is a key research engine for innovation, that the STEM sector has produced a range of valuable innovations, that the creative arts and HASS sector are a valuable part of an innovation-focused educational curriculum, and that some national innovation priorities need to be located in the STEM sector. However, just as the STEM sector is also seen as a necessity for innovation-focus education (see "Maths/Science/Technology" in Chapter 5, pp48-50), so too we should view the HASS sector (including creative arts) as having, and being capable of, producing a range of valuable innovations, as well as being a further crucial and substantial research engine for innovation and our innovation priorities.

Finally, a quick content analysis of the report is telling, if we compare the number of times various key terms are mentioned: “science” and “scientific” = 237 mentions; “technolog* ” = 227 mentions; “engineering” = 39 mentions; “medic* ” = 36 mentions WHEREAS “humani*” = 13 mentions; “design” (in the sense of the design sector, not policy design” = 16 mentions; “arts” (as in creative and liberal arts) = 50 mentions. In total the STEM sector receives over 500 mentions, and the HASS sector less than 80. In other words, within the report STEM is given seven times the attention of HASS.

THE ACTUAL PLACE(S) OF THE CREATIVE ARTS IN INNOVATION

In our research for our forth-coming CHASS paper, Haseman and I uncovered a range of arguments made by the creative arts and HASS sector (and also the late Keating government) since the time of “Creative Nation” in 1994. One useful and simple way of understanding these arguments is to think of them as ‘placing’ the creative arts in different zones of the innovation framework, which more-or-less map onto the report’s own conceptual framework (see Figure 10, as described above).

So now I want to briefly outline these places (the places of culture, education, research, application and diffusion), and I urge government to consider that these places are EQUALLY the domains of STEM and HASS (including the creative arts). I do not have space here to identify the NRIS submissions which discuss these places in terms of the creative arts, but I can supply this information if requested.

(a) The place of CULTURE: this is the background “ideas culture” or “culture of creativity” that surrounds the innovation system… in which the creative arts, when practiced and promoted across all arenas of the community from amateur through to virtuoso, adds to the general ambience of new thinking, possibilities and imagination of our society -– see the 1999 Nugent report and Creative Class ideas by Florida.

(b) The place of EDUCATION: this is the education system that “strengthens people and builds skills” for future innovators… in which the creative arts can build key aptitudes such as creativity, flexibility, interpretive skills and collaboration –- see CCI & Australia Council’s report ‘Educating for the Creative Workforce’ (2007).

(c) The place of RESEARCH: this is often found in universities and dedicated research centres, where new knowledge is produced… in which the creative arts can be a form of basic and applied ‘practice-led’ research that produces new concepts, methods and material outputs -- see ‘Innovation in Australian Arts, Media and Design’ (edited by Wissler, Haseman, Wallace and Keane, 2004), also see the CHASS occasional paper on research collaboration across the HASS and STEM sectors.

(d) The two places of APPLICATION: the first form of application is ‘commercialisation’ (economic innovation) that turns ideas into marketable new products and services… in which the creative arts can function as commercial arts, design, media and communications (the commercial end of the creative industries) -- see Jason Pott’s article “The Arts and Innovation” (2007) in which the R&D and commercial ends of creative industries are positioned in terms of the innovation cycle, also see the CHASS occasional paper on commercialisation in the HASS sector (2006).

The second form of application is non-commercial public good 'utilisation' (social innovation)… in which the creative arts function as re-vamped forms of community cultural development where social problems and solutions are imagined and practiced through the mediums of the creative arts -- this aspect of social innovation came through in various submissions to the NRIS, linked mainly to health, the environment and social policy, see Australia Council's "Arts and Wellbeing" report (2004).

(e) The place of DIFFUSION: this is when new knowledge and applications are made available to and spread across the economy and society, absorbed into the new norms and conditions of contemporary life… in which the creative arts and creative industries, because they are interactive forms of culture, connect people in embodied and cognitive ways to the latest innovations and new ways of being consumers and citizens. Furthermore, the cultural institutions (museums & other collection agencies) can serve the double function of archiving cultural knowledge for those engaged in R&D activities as well as presenting and dispersing the archive to the public in physical and online facilities.

The report more-or-less isolates the creative arts to the place of education, yet as just discussed, there are a range of other places that are just as a viable and crucial a place for the creative arts to occupy, along with and in connection with all areas of HASS and STEM.

WHAT GOVERNMENT SHOULD NOW ADDRESS

If the NRIS is to follow through on the report's broad vision of weaving the creative arts and HASS into the fabric of our national innovation system, then there needs to be a set of recommendations which actively re-dress the current imbalance in the system, an imbalance which holds onto the status quo of a STEM-centric innovation framework. Such recommendations should require that our federal government do the following:

* create several national research institutes that are dedicated to the creative arts and HASS sector, a CSIRO for the arts (the current proposed Creative Industries Enterprise Centre belongs to the place of commercialisation, not research).

* strongly request that the ERA (Excellence in Research for Australia) Initiative broadens what counts as research within national research audits, to include the research methods, outputs and publication formats of the creative arts and HASS (especially 'practice-led' non-text formats).

* ensure that the definition of what counts as R&D within the recommended R&D tax credit system (Recommendation 8) include the sort of R&D conducted within the creative arts and HASS.

* ensure that the recommended National Innovation Council (Recommendation 12.1) has a charter that includes specific aims and objectives for the creative arts and HASS.

* ensure that the recommended Research Coordination Centre to the National Innovation Council (Recommendation 12.2) has a charter that includes specific aims and objectives for the creative arts and HASS.

* ensure that expertise from the creative arts and HASS are represented on national innovation advisory groups including, but not restricted to, the National Innovation Council.

* conduct a national innovation survey aimed specifically at the forms of knowledge and applications to come out of the creative arts and HASS (a 'Mapping Australian Arts and Cultural Innovation' project to compliment the previous 'Mapping Australian Science and Innovation' report 2003).

* ensure that at a proportionate number of the recommended national Web 2.0 experiments (recommendation 10.2) be based around the creative arts and HASS (at least 2 or 3 of the recommended 5).

* broaden the recommended National Research Priorities to include matters of national significance that the HASS and creative arts are best geared to deliver on -- thinking through such possibilities requires more work and consultations, but for now could I suggest a national priority of “cultural inclusion in the age of globalism” and “communal and collective story-telling” -- without innovations in these areas we will not be able to take advantage of our global and local relations.

At the arts and innovation breakfast at Sydney Opera House, in August this year, Terry Cutler intimated that the submissions to the NRIS by the arts sector were, on the whole, weak. From my reading of all the submissions that mention the creative arts, it is hard to disagree with Cutler’s assessment. This means it may be appropriate to direct some of the NRIS’s recommendations to the arts sector, of which the starting point should be:

* that the Australia Council and other national peak cultural agencies should, in negotiation with government, form a National Innovation in the Arts Taskforce, to feed into and be directly supported by the National Innovation Council and its Research Coordination Centre.

If the federal government were to act on these recommendations just listed, recommendations that compliment those of the Venturous Australia report on our national innovation system, much good work and outcomes would follow. In short, Australia would then become ad-venturous about the scope and substance of its innovation policy, along with the innovation activities that would flow in its wake. Otherwise we may well be left behind in the wake of advances in the US, UK and OECD that have already begun (see the work of NESTA in the UK as one example).

I would be most happy to be contacted about any of the matters raised in my response to the NRIS report.

Yours sincerely

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